

REMARKS

Applicants have carefully considered the November 1, 2007 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Claims 1-6 are pending in this application, of which, claim 6 is withdrawn from consideration pursuant to the previous restriction requirement.

In response to the Office Action dated November 1, 2007, claims 1, 2 and 5 have been amended. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification. Applicants submit that the present Amendment does not generate any new matter issue. Entry of the present Amendment is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

Claims 1-5 were rejected under 35 U.S.C. § 112, second paragraph. Applicants respectfully traverse the rejection in view of the foregoing amendments to claims 1 and 5 which Applicants believe adequately address the Examiner's concerns regarding the issues of clarity and antecedent support.

With respect to claim 1, the Examiner asserts that there is no antecedent basis for the phrase "the center region of the flame". However, Applicants submit that claim 1 does not even recite the term "region" and, furthermore, requires a step of synthesizing glass particles with a flame issuing from a burner and that the flame has a center portion for synthesizing glass particles. Thus, Applicants submit that the rejection is not legally viable and should be withdrawn.

With respect to claim 5, Applicants submit that page 33, lines 1-2 of the specification support the amendment to claim 5 which now recites that the top of the burner for synthesizing glass particles is within a range of 150 to 500 mm.

Accordingly, one having ordinary skill in the art would not have difficulty understanding the scope of the presently claimed invention, particularly when reasonably interpreted in light of the supporting specification. Therefore, it is respectfully submitted that the imposed rejection of claims 1-5 under 35 U.S.C. § 112, second paragraph is not legally viable and hence, Applicants solicit withdrawal thereof.

Claims 1-2 were rejected under 35 U.S.C. § 102(b) as being anticipated over Moltzan (U.S. Pat. No. 3,565,345, hereinafter "Moltzan"). Applicants respectfully traverse.

Claim 1 describes, in pertinent part, a method of producing a porous glass-particle-deposited body, wherein a condition exists such that the glass particle deposition surface has a region that is hit by the center portion of the flame; and another region that has a temperature higher than that of the region hit by the center portion of the flame and that is located at the outside of the region hit by the center portion of the flame.

The Examiner admitted that Moltzan is silent as to the claimed temperature differences, but apparently, relied upon the doctrine of inherency and reference to the Tsai publication to support the conclusion that the outer regions would be hotter than the inner regions. Applicants respectfully traverse the Examiner's reliance on the doctrine of inherency and submit concurrently herewith, factual evidence to traverse the Examiner's conclusion that the outer regions would be hotter than inner regions.

Tsai, in Fig. 2, shows temperature distributions in a jet, namely in a flame at several positions  $x$ . At  $x = 2.8$  or  $7.5$ , the outer regions are hotter than the inner regions, but at  $x = 12.5$ ,

temperature in the inner region is similar to that of the outer region. In addition, claim 1, on the contrary, defines a temperature relationship on a glass particle deposition surface. The temperature on a surface may be different from the temperature in a flame. Thus, Applicants submit that the Examiner's reliance on the Tsai publication is neither relevant to the present claimed subject matter nor sufficient to factually support the Examiner's reliance on the doctrine of inherency.

The Examiner's attention is instead directed to the attached document, S. Sudo, et al., *Refractive-Index Profile Control Techniques in the Vapor-Phase Axial Deposition Method*, The Transactions of the IECE of Japan, Vol. E 64, No. 8, pp. 539-40 (Aug. 1981), wherein Fig. 7 shows a **typical surface temperature** distribution. The temperature distribution along the center line of the preform is indicated on the left in Fig. 7 from which it can be seen that maximum temperature is about 650° C at the center part and the temperature decreases to 300° C gradually along the radial direction. Thus, the inner (center) portion has the higher temperature. Therefore, the temperature relationship on a glass particle deposition surface is **not** disclosed by either Moltzan or Tsai.

With respect to amended claim 2 in particular, nozzle openings 78 of Moltzan feed a mixture of oxygen (combustion-assisting gas) and hydrogen (combustible gas) and thus, Moltzan cannot be regarded as teaching at least two ports wherein each includes a tubular boundary for feeding only a combustion-assisting gas comprising oxygen and not a combustible gas. Thus, the feature of at least claim 2 (a3), is not described or suggested in Moltzan.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, such that the identically claimed invention is placed into the possession of one having ordinary skill in the art. Moreover,

in imposing the rejection under 35 U.S.C. § 102, the Examiner is required to specifically identify wherein an applied reference is perceived to identically disclose each feature of a claimed invention.

Applicants, therefore, submit that the imposed rejection of claims 1 and 2 under 35 U.S.C. § 102 for lack of novelty as evidenced by Moltzan is not factually viable and, hence, solicit withdrawal thereof.

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Moltzan in view of Tsai, H.C. et al., “a study of thermophoretic transport in a reacting flow with application to external chemical vapor deposition processes”, *Int. J. Heat Mass Transfer*, Vol. 38, no. 10, pp 1901-1910 (1995) (hereinafter “Tsai”) or Bocko (U.S. Pat. No. 4,604,118, hereinafter “Bocko”) in view of Tsai. Applicants traverse.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Moltzan in view of Tsai or Bocko in view of Tsai, and further in view of Backer et al. (U.S. Pat. No. 5,180,411), Ishihara (U.S. Pat. App. Pub. No. 2003/0024273) or Evans et al. (U.S. Pat. No. 5,925,163). Applicants traverse.

Applicants incorporate herein the arguments previously advanced in traversal of the rejection of claims 1-2 under 35 U.S.C. § 102(b) predicated upon Moltzan. The secondary and tertiary references to Tsai, Bock and Backer do not cure the argued deficiencies of Moltzan. Thus, even if the applied references are combined as suggested by the Examiner, and Applicants do not agree that the requisite realistic motivation has been established, the claimed invention will not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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